Space Weather Forecast

Issued on Friday 14 March 2025 at 13:26 Local

This forecast provides a four-day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Isolated Moderate class flares likely. Chance G1/Minor Storms day 3-4 (16-17 Mar)

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Low with only common class flares occurring. The region in the north-centre disc remains the most complex on the disc, but has seen its weak mixed polarity spots fading. The region near the southeast limb has been redefined, with a new region now following, however this remains the next most notable region with some apparent growth of trailer and intermediate spots as this moves into view. Slowly growth was also evident in two of the regions in the northeast however these remain relatively simple. The other regions remain small, simple and either stable or in decline.

No Earth-directed coronal mass ejections (CMEs) have been observed in available imagery.

Solar Wind / Geomagnetic Activity: Solar winds continued to indicate a connection to the fast solar winds from a coronal hole. Wind speeds rose from slightly elevated to be elevated. Interplanetary Magnetic Field strength remained Weak. The north-south component fluctuated Weakly. However geomagnetic activity was initially Active to G1 Minor Storm, with a G2 Moderate Storm being observed 14/0000-0300 UTC, perhaps bringing some visible aurora to parts of Scotland. Activity then eased to be mainly Quiet to Unsettled.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) was at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low to Moderate activity, with isolated Moderate class flares likely

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Ongoing fast wind are expected at first, but likely easing for a time day 2-3 (15-16 Mar), before a further enhancement from the next fast wind days 3-4 (16-17 Mar) although this is low confidence. Mainly Quiet to Unsettled geomagnetic activity is now expected day 1-2 (14-15 Mar), however isolated Active intervals with a slight chance of further G1 Minor Storms remain possible. The further enhancement is then likely to give a spell of Active to G1 Minor storms later day 3 or day 4 (15-16 Mar).

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

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Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to be at background with no solar radiation storms occurring

Geomagnetic Storms

Geomagnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	Yes	80	10	30	50
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X-Ray Flares

X-Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 (M Class)	No	60	60	60	60
Very Active	R3-R5 (X Class)	No	5	5	5	5

Solar Radiation Storms (High Energy Protons)

Radiation Storms Probability (Exceedance)	Level ($cm^{-2}sr^{-1}s^{-1}$)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and/or 50 MeV ≥ 10pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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